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ARID-LAND WATER RIGHTS IN THE UNITED STATES.*

Anglo-Saxons are not known to have attempted irrigation on an extensive scale before 1847.¹ Since the beginning of history, that conquering race seems to have preferred to take for itself the humid parts of Europe and America, while its weaker Romance rival has been confined to the presumably less productive and partially arid reaches of the continents. With the occupation of Western America, came the social and economic problems of an arid environment, the necessary development of irrigation agriculture, and the spontaneous appearance of a theory of *riparian rights* which contradicts the principles governing the use of natural waters under the common law. By the exercise of this right in the use of water for irrigation, as justified by the new "doctrine of appropriation", over forty per cent. of the present area of the United States has become habitable and productive, and thereby is made to pay rich tribute to a national economy.

The efficacy of the common-law doctrine of riparian rights, under the conditions of English industrial and social development, is indisputable. This is clearly evidenced by the fact that the right of riparian proprietors not only has survived since time before the Cæsars, but has long been identified with the foremost Anglo-Saxon institutions of Justice, and its survival has, until recently, been in harmony with industrial economy and progress. It is also true that irrigation is one of the oldest arts of civilization and the doctrines of its practice are as venerable as they are old. The greatest nations of the ancient world maintained dominion for centuries in an almost rainless climate, and evidences of a prehistoric civilization in the dry places of the western hemisphere bear further testimony to the very ancient practice of irrigation economy.²

*To be published in the forthcoming book of the author, *Irrigation Water Rights*.

¹The Mormon colonists of Utah first diverted the waters of City Creek, near Salt Lake City, for the purpose of irrigation in the summer of 1847. (Bancroft, *Hist. of Utah*, p. 261; Whitney, *Hist. of Utah*, 1, 331; Wilford Woodruff, *Utah Pioneers*, p. 231).

²The code of Hamurabbi—said to have been formulated seven hundred years before Moses wrote—defines in detail individual rights in the use of water for irrigation, Ware, *Roman Water Laws*, pp. 13 & 14, Herodotus, writing 450 years before the Christian era, described the Assyrian irrigation system built by Nimrod, King of Babel, or Nebuchadnezzar about 2204 B. C., and which utilized canals and laterals some of which were navigable and connected the Euphrates with the Tigris. The historians Diodorus

The nativity of the legal doctrine of appropriation as a sanction of property in streams in the United States was concurrent with the exploitation of the gold fields of the Sierra Nevada Mountains, initiated in 1848. The lands upon which the precious metal was found had just been acquired from Mexico by the United States and were unsurveyed and not yet legally open to occupation and settlement.³ Within a few months, following the discovery of gold in the sands of California, the canyons and mountain valleys of the district were populated by thousands of fortune seekers. They recognized no code of law, and possessed no

and Pliny wrote of the reservoirs of the Nile Valley constructed by King Maeris about 2084 B. C., Gipps, paper before Royal Society of South Wales, December, 1887. The ancient flooding system of Egypt, the reservoirs of Persia, the Grecian aqueduct, the Roman conduits, and the Jewish canals near Hebron are of common knowledge.

In the western hemisphere irrigation is older than tradition. Evidences of it are to be found in many parts of the Southwest, especially Arizona and New Mexico. Some ancient canals are still plainly marked and in places modern irrigators are utilizing the works of those forgotten people; U. S. Geological Survey, Thirteenth Annual Report, pt. III, p. 136; Annual Report of the Smithsonian Institute, 1904, p. 588. At the time of the Spanish conquest of Mexico, appropriation of streams for irrigation prevailed among the Aztecs, the Toltecs, and the Vaquis, and the practice survives to this day among the Pinas, the Papagoes, and other native tribes of Pueblo Indians. The Pueblos use the water as they have done for generations and hold almost sacred their irrigation rights acquired by use and recognized by law, and in these rights no preference is given to a riparian owner. Irrigation in Peru is of ancient origin; but there early appropriation was directed by the state, which constructed and maintained canals for the use of the tillers of the soil. Necessity requires irrigation in parts of Spain, France, Portugal, and Italy. The Lombard Kings encouraged and advanced irrigation in Italy. The art was extended from Lombardy to France, and the Moors carried it into Spain, Sicily and Algeria. The Spanish conquerors brought a knowledge of irrigation to America and did much to advance its practice under the principle of state administration in the Spanish colonies. Escriche, "Aqua" pars. III & IV, also "Acequia". From Mexico, the Spanish system was carried northward into the "Californias" by the Jesuit and Franciscan Fathers. The first irrigation ditch in California appears to have been constructed about 1770, near San Diego Mission, and was followed by other works at the Mission of San Juan Capistrano in 1776, and at San Fernando two years later. James, *In and Out of the Old Missions*; Stoddard, *In the Path of the Padres*; Clinch, *California and its Missions*.

The Old Mexican Canal, which draws water from the Rio Grande River near El Paso and which is now to be served from the great Elephant Butte dam constructed by the United States Reclamation Service, has been in continuous use for probably 300 years. By the treaty with Mexico, signed May 21, 1905, the United States recognized the priority irrigation right of Mexico in the waters of the Rio Grande to the extent of the capacity of this ancient canal. The treaty provides for the free and perpetual delivery by the United States of 60,000 acre feet of irrigation water annually, at the point of diversion of the Mexican Canal. 34 Stat. pt. III, 2953.

³Treaty with Mexico, "Guadalupe Hidalgo". Feb. 2, 1848. 9 Stat. Treaties 108.

trained or organized legislative, judicial or executive agencies,⁴ but the necessity for order and system and the judicial temperament of the dominating Anglo-Saxon element soon put on foot a semblance of law and administration. However, as regards property rights and mining privileges, the customs growing out of the antecedent Mexican rule under the *civil law* were generally recognized.⁵

Miners held meetings in various "bars", "diggings", and "camps" and enacted regulations by which, in lieu of other law, they agreed to be governed. These codes provided for a measure of security of persons and property, and their provisions were singularly uniform in principle and their administration effective.⁶ The laws of the United States, as they were applicable to this country, gave title in real property to no one, except through the grant of certain lands to the State of California,⁷ and through pre-

⁴Prior to March 3, 1849, no attempt was made to extend the operation of federal laws to California, and, on that date, only the revenue laws were so extended by Congress. 9 Stat. 400.

⁵"The Spanish-American system which had grown up under the practical working of the mining ordinances of New Spain, was the foundation of the rules and customs adopted But they were not the spontaneous creation of the practical miner of 1849-50. They reflect the natural wisdom of the practical miner of past ages, and have their foundation in certain natural laws, easily applied to different situations, and were propagated in the California mines by those who had a practical and traditional knowledge of them in their varied forms in the countries of their origin, and were adopted, and no doubt gradually improved and judicially modified by the Americans". Yale, *Mining Claims and Water Rights*, pp. 58 & 59.

Until the admission of California into the Union in 1850, the country was governed by military authority. Upon the accession in 1848, the customary Mexican laws continued to be recognized locally. On Feb. 12, 1848, Colonel Mason issued a proclamation as military governor, by which he attempted to put an end to the local uncertainty as to the status of the law, by decreeing that "From and after this date, Mexican laws and customs now prevailing in California, relating to the denouncement of mines, are hereby abolished". *Id.* p. 17.

⁶A collection of the rules and customs enforced in the various districts appears in a report by J. Ross Browne, Commissioner of Mining Statistics in *Mineral Resources*, 1867, pp. 235-247.

Mr. Browne describes the main purposes of the codes as the fixing of district boundaries, the size of claims, and the manner of marking and recording claims, also the determination of the amount of work that should be done to hold a claim, and the circumstances under which claims should be considered abandoned and open to occupation to new claimants. *Id.* p. 226.

On customs and regulations of miners of early California, see also Yale, *Chaos*, VII & VIII; Lindley, *Mines*, sec. 40 *et seq.*; Bancroft, *Popular Tribunals*, *Gen'l Works*, Vols. 36 & 37.

⁷Until 1862, the preemption right was not extended to the unsurveyed lands of the United States and was thus excluded from the Mexican cession. Since that time the right was applied to unsurveyed lands; but

existing Mexican grants which were formally acknowledged upon the acquisition of California by the federal government.⁸ Local legislation could not establish property rights in natural agents, as against the United States; but, as among private persons and in the absence of the exercise of federal authority, such legislation was justifiable and, indeed, necessary if industrial development was to persist.

The objects of the codes of the early Californians, aside from that of personal safety, were to secure, within practicable limits, equality of right and opportunity in acquiring and operating mines, and to define justifiable property in natural resources. To best accomplish this, *he was made first in right of property who was first in time of possession, and his utilization of that right gave him a valid claim against all others except the nation. Discovery, followed by appropriation, was recognized as a sanction of title, and a specific measure of use or development of the property thus acquired was requisite to its retention.*⁹

By virtue of the necessity of its use in both mining and agriculture, flowing water assumed a relation to the industry of the West, comparable in importance to that of the placer sand, the quartz vein, or the soil itself. Each was a physical part of the public domain, each was useful and unused, each was limited in amount and valuable, and if a rule of *appropriation and use* was justifiable as an essential of the realization of property rights in one, it likewise appeared to be a worthy essential of property in the others. So the rule of justice and expedience declared that

until lands are surveyed and plats filed settlers can make no record of their preemptions and have little better than a squatter's right.

California received large federal grants of indefinitely defined "Swamp" and school lands which, however, in defiance of law, were openly sold at private sale until such disposition was declared illegal in 1863. (On the early land policy of California see Henry George, *Our Land and Land Policy*, San Francisco, 1871; republished in complete works, Vol. VIII, 1904).

⁸"Treaty of Peace, Friendship, Limits, and Settlement" (Guadalupe Hidalgo), 1848, Art. VIII; 9 Stat. Treaties 115.

⁹"The miners of California have generally adopted, as being best suited to their peculiar wants, the main principles of the mining laws of Spain and Mexico, by which the right of property in mines is made to depend upon *discovery* and *development*; that is, *discovery* is made the source of title, and *development*, or *working*, the condition of the continuance of that title. These two principles constitute the basis of all our local laws and regulations restricting mining rights". Halleck, in Introduction to his translation of De Fooz on the Law of Mines, Sec. XII.

On the origin of the right to appropriate water, see Pomeroy, *Water Rights*, 13, 18; Justice Field, in *Jennison v. Kirk* (1878) 98 U. S. 453; W. M. Stewart, *Cong. Globe*, 1st Sec., 39 Cong., Pt. IV, p. 3225.

he who first turned the waters of a stream from its course, or of a lake from its bed, and applied them to beneficial and continuing use was first in a property right in that stream commensurate to and concurrent with that use. This doctrine was inaugurated by the placer miners of California and for a time defended as their exclusive prerogative; but the application of a stream of water to an area of placer sand for the direct extraction of gold differs, neither in economic principle nor legal sanction, from the application of the waters of a stream to an area of land for the creation of values through the medium of agriculture.¹⁰

¹⁰Not only early codes, but formal legislation favored miners against others. For a long time, appropriation for mining purposes was understood to take precedence of the use of water for agriculture. The "Possessory Act", of 1852, sought to establish this precedence, and, in granting possessors of public lands access to the courts in action against those interfering with their possessions, agriculturists and graziers were denied protection against the dog-in-the-manger tactics of miners. The "Indemnity Act" of 1855 required miners entering upon agricultural lands to give bond for possible damages to agricultural improvements. The Indemnity Act was held unconstitutional in *Gillan v. Hutchinson* (1860) 16 Cal. *153, but was again upheld in *Rupley v. Welch* (1863) 23 Cal. *452.

An act of May 15, 1854 (Cal. Laws of 1854, p. 76) recognized the needs of agricultural sections of the State for irrigation facilities. The mining interests were so influential, however, as to so modify the bill that the law was of little benefit to the farmers. Some provisions of the law are of interest as declarative of principles of the common law and favoritism toward the mining industry. Boards of commissioners and overseers were provided to regulate water courses in certain counties and distribute water. The ditches were to be constructed by work performed as on public roads. Water rising on land owned by any person was not subject to the provisions of the act unless it passed beyond the limits of the land, no person could divert the water of a natural stream to the detriment of a riparian dweller below, and no ditch could be run across the estate of another without compensation to be agreed upon. Section 15, of the Act, contained the important proviso—"Provided that nothing in this Act shall be construed to apply to the mining interests of this State". This section was amended in 1860 (Cal. Laws of 1860, p. 335) and again in 1862, (Cal. Laws of 1862, p. 235), but no change was made in the proviso. The counties of San Diego, San Bernardino, Santa Barbara, Napa, Los Angeles, Solano, Contra Costa, Soluso, and Tulare were included in the provisions of the original bill. Other acts of the same special nature have applied to other counties.

"These acts, with the significant proviso, clearly show that the legislature was determined to let the condition of things existing in the mines, with relation to water rights, remain as they were projected by individual enterprise without the sanction of any recognized rule of law". Yale, *op. cit.* 140.

The statutes defined above are still nominally in force in California, but a long series of decisions have so limited and qualified their terms as to make them of no effect as respects the appropriation of water (see *Wiel, Water Rights in Western States*, (3rd ed.) 1112, and cases there cited). The present law is substantially stated in *Natoma Water and Mining Co. v. Hancock* (1894) 101 Cal. 42, 31 Pac. 112, 35 Pac. 334. In discussing the earlier case of *Rupley v. Welch*, *supra*, the court said at p. 55:

Upon these premises, was established the doctrine of priority of appropriation, by which is defined the title in real property in the arid districts of America. While the miners were developing the doctrine of appropriation of water for mining purposes in California, the same principle was being made the basis of property in water for irrigation in Utah. However, in Utah, the community interests of Mormonism gave rise to practices in the appropriation of water somewhat at variance with those of the California settlements.

Historically, the law of appropriation of water to beneficial use and the consequent American irrigation water right may be said to be outgrowths of the California mining law, and thus indirectly derived from the civil law of Mexico and Spain, and, *ipso facto*, from the Roman Law.¹¹ The historical connection, however, although real, is incidental and constitutes no adequate causal explanation of the prevailing doctrine of appropriation in the West. On the other hand, economic and social relations resulting from the physical environment of an arid climate and evolved under the political régime of the American frontier must inevitably have given birth to such a theory of property in water regardless of history.

Until 1851, the status of the law in the West remained as formulated by the miners in their codes of local authority.¹² In that year, the first legislature of California gave those voluntary regu-

"The point . . . contended for by the defendants was that a prior appropriation of water for irrigation was of no avail against a subsequent appropriation for mining. The court merely decided that the appropriation for irrigation was good against miners as against others . . . This is a doctrine which, at the present day, no one disputes, but in early mining times the paramount right of the miner was strenuously insisted upon by the miners and in mining sections often exercised with a high hand, as it was by the defendants in *Rupley v. Welch*". The final result is that all industrial pursuits are treated impartially in California as concerns water. See Yale, p. 139.

¹¹*Titcomb v. Kirk* (1876) 51 Cal. 288; Wiel, *op. cit.* §§ 68, 686. The great books of the Spanish Law, called the "*Partidas*" are in fact a condensation of the Roman Law as contained in the *Pandects of Justinian*. Ware, *Roman Water Laws*, p. 17.

¹²These regulations related, in part, to the manner of acquisition and holding "claims" to mineral lands, and to the use of water for mining. They provided for the appropriation of parcels of land and the flow of streams, and the amount of development or use which would give the appropriator a prior right over all others to their enjoyment. They further provided for recognition of conditions constituting an abandonment or forfeiture. Black's *Pomeroy on Water Rights*, pp. 18-24.

lations legal and compulsory efficacy by statute.¹³ For eighteen years after settlement began in California, the local impromptu codes, as sanctioned by statute and moulded and applied by the courts, constituted the law governing property rights in mineral lands and flowing waters *on the public domain*. The sale of mineral lands was not authorized by the United States until July 26, 1866.¹⁴ In the first section of the act of that date, it was declared that *mineral lands of the United States were free and open to exploration and occupation, subject to such regulations as might be prescribed by law and the local customs or rules of the inhabitants of the several districts, as far as the same were not in conflict with the laws of the United States*. The act further provided that *water rights established by priority of possession should be maintained and protected, and the right of way for canals and ditches for the purpose of diverting water for mining, agricultural, or mechanical use was acknowledged and confirmed*.¹⁵ The United States Supreme Court has designated this act as "a voluntary recognition of a pre-existing right of possession constituting a valid claim to continued use".¹⁶ By this law, *possessors* were enabled to establish permanent rights by government patent, and by acts of July 9, 1870, and May 10, 1872, all subsequent patents were issued subject to previously vested water rights.¹⁷

The federal statutes mentioned above paved the way for a formal abrogation of the common-law doctrine of riparian rights by the States throughout the arid region, and for the legal confirmation of the new doctrine of appropriation.

For over half a century, the doctrine of appropriation, as worked out by the gold miners, has served as the ruling principle in the construction of water law in the West. However, the application of the doctrine has not been extended without confusion and difficulty, nor has the principle itself remained without amendment. The old legal doctrines were firmly entrenched behind custom and vested interests. The proponents of the common law, especially in the semi-arid States where climate is not an impera-

¹³"In actions concerning mining claims, proof shall be admitted of the customs, usages, and regulations established at the bar or diggings embracing said claims, and such customs, usages and regulations, when not in conflict with the Constitution or the Laws of this State shall govern the decision of the action". Cal. Laws of 1851 c. 5 § 251.

¹⁴14 Stat. 251.

¹⁵14 Stat. 253; U. S. Rev. Stat. 2339; U. S. Comp. Stat. 1901 § 1437.

¹⁶*Broder v. Water Co.* (1879) 101 U. S. 274.

¹⁷16 Stat. 217, 218; 17 Stat. 91; U. S. Rev. Stat. 2340.

tive obstacle to its application in matters of water rights, have been active in opposing legislation and judicial precedent of contrary principle. Compromise has been attempted, and California herself has led in a determined and, we believe, unsuccessful attempt to harmonize the two theories of water rights.¹⁸ Several of the semi-arid States have followed California in attempting to occupy a middle ground upon principles of water rights, but no arid State has succeeded in so doing. Nevada emulated the dual system of California, until, in 1889, a hopeless entanglement of water claims caused the supreme court of the State to reverse its former rulings and adopt a positive principle applicable to the economic use of water in that State.¹⁹ Oregon, until 1909, a common law State, enacted a comprehensive statute in that year which virtually abandons the riparian doctrine as a basis of future irrigation water rights.²⁰

As the several States and territories of the arid West have successively recognized and applied the doctrine of appropriation, the nature of its elaboration and the manner of its administration have varied within wide limits, but the fundamental principle remains unchanged. An important step in the evolution of the rule of priorities has been its recognition of different uses to which water may be applied. First designed to apply to the gold placers of the Sierras, the doctrine was soon extended to recognize agricultural and mechanical uses on a par with mining uses. In some States, notably Colorado and Wyoming, industrial progress created a changed order of importance among uses and the agricultural use has come to be recognized as the more essential and primary. Because of the varying intensity of needs served in the different uses, the law gradually was made to acknowledge the relative importance of the uses as well as to recognize the order of appropriation.²¹

¹⁸For a brief treatment of the California system, see, *Appropriation of Water in California*, by A. E. Chandler, *California Law Rev.* March 1916.

¹⁹*Reno Smelting etc. Works v. Stevenson* (1889) 20 Nev. 269, 21 Pac. 317; *Anderson Land & Stock Co. v. McConnell* (C. C., D. Nev. 1910) 188 Fed. 818.

²⁰*Oregon, General Laws Vol. III, p. 2337.*

²¹"Preferred uses shall include rights for domestic and transportation purposes; existing rights not preferred, may be condemned to supply water for such preferred uses in accordance with the provisions of the law relating to condemnation of property for public and semi-public purposes. Such domestic and transportation purposes shall include the following: First—Water for drinking purposes, both for man and beast; Second—Water for municipal purposes; Third—Water for the use of steam engines and for general railway use; Fourth—Water for culinary, laundry, bathing, refrigeration

A second significant tendency in irrigation practice and law is to merge individual rights into classified priorities, and to administer the pooled rights constituting each class for the equal benefit of all proprietors within the group. This tendency has perhaps reached its widest development in Utah, but the rapid expansion of the "district system" in the several States is bringing it into general recognition.²²

Colorado was the first State to incorporate the doctrine of appropriation in its constitutional law. The provisions of the constitution of that State, relating to title in the use of water, promulgate the doctrine in its generally accepted terms, and the laws of other States and territories which recognize the principle of the doctrine are essentially derived from the Colorado law. The provisions of the Colorado constitution relating to the subject are as follows:

"The water of every natural stream, not heretofore appropriated, within the State of Colorado is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the State, subject to appropriation as hereinafter provided" (Art. XVI., Sec. 5).

"The right to divert unappropriated waters of any natural stream for beneficial use shall never be denied. Priority of appropriation shall give the better right as between those using the water for the same purpose; but when the waters of any natural stream are not sufficient for the services of all those desiring the use of the same, those using the water for domestic services shall have the preference over those claiming for any other purpose; and those using the water for agricultural purposes, over those using the same for manufacturing purposes" (Art. XVI., Sec. 6).

This law denies the riparian proprietor, as such, all property rights in an adjacent stream, that is to say, *he has no usufruct in the stream not open to others whose estates are non-riparian*. The State asserts a sovereign ownership over the industrial resources of all natural streams,²³ and it grants a right of user, up to the

erating (including the manufacture of ice) and for steam and hot water heating plants. The use of water for irrigation shall be superior and preferred to any use where turbine or impulse water wheels are installed for power purposes". Wyo. Comp. Stat. 1910 § 725.

"The most essential element of an appropriation of water is its beneficial use". *Eastern Ore. Land Co. v. Willow River etc. Co.* (C. C., D. Ore. 1910) 187 Fed. 466; *Town of Sterling v. Pawnee Ditch Extension Co.* (1908) 42 Colo. 421, 94 Pac. 339 and cases there cited.

²²Hess, R. H., in *Baily's Encyclopædia of Amer. Agriculture* Vol. IV, p. 166.

²³"Natural streams was used in the broadest sense and intended to include all tributaries and the streams draining into other streams, including all sources which go to make up the natural stream. Percolating waters finding their way to a stream are tributary thereto". *In re German Ditch & Reservoir Co.* (1913) 56 Colo. 252, 139 Pac. 2.

capacity of the stream, to those persons who properly apply the waters to domestic, agricultural, or other purposes. The location of the lands of the user, with respect to the course of the stream, is of no legal consequence. They may border the stream or may be remote therefrom. In fact, no reason appears why the streams of one watershed may not be diverted for the benefit of the lands of another watershed, and such action has been sustained by the courts of both Colorado and Wyoming, and, in so far as any extra-riparian appropriation may be recognized, in California.²⁴ The law implies that the *quantitative measure of a water-right* is the extent of the initial use, which, of course, is contemporary with the actual diversion and benefit; but the *priority of the right* has been variously fixed as of the time of declared intention to divert water to the time of the actual application of water to the soil.²⁵ Ordinarily, no limit is placed upon the extent of the initial diversion if it is for actual use; but in several States, notably Wyoming and Nebraska, the legitimate use of a given flow of water is defined and an excessive diversion for any area of land is forbidden.²⁶

When the waters of a stream are insufficient for the needs of all, the order of satisfaction of the needs shall be that of the initial appropriation (in time) of the water to the needs, provided that the nature of certain needs shall designate them as privileged over other needs, in disregard of the order of appropriation. This recognition of preferred needs and classified uses negatives, to a degree, the primary conception of the doctrine of appropriation—"First in time, first in right". By this provision, there is created an elasticity in the law which favors its adaptability to economic progress. Social and industrial evolution in the irrigation country is extremely rapid, and if legal principles and institutions are to be of surviving efficacy they must be cognizant of evolutionary facts and they must be incorporated in forms sufficiently flexible to admit of adjustment to the changing relations of industrial and social factors.

Prevailing methods of determining the titular facts of time, extent, place, and manner of initial diversions and uses of water for irrigation are, at best, approximate, and out of their inaccu-

²⁴*Coffin v. Left Hand Ditch Co.* (1882) 6 Colo. 443; *Miller v. Bay Cities Water Co.* (1910) 157 Cal. 256, 107 Pac. 115.

²⁵This reference of the priority to a specific act of appropriation is known as the *doctrine of relation*.

²⁶In these States the legal "duty of water" is defined by statute as 70 acres per 1 cubic foot flow of water per second.

cies grow many of the administrative problems of irrigation.²⁷ This is true because, by the attributes and contingencies of the *initial use*, the nature, amount, and priority of the water right is defined. The irrigation States and Territories have undertaken different methods of ascertaining these important facts and of applying the principles of the law in accordance with them. In this respect, laws of different States vary widely, and have been subject to judicial interpretations so paradoxical as at times to subvert the principles of the elementary doctrine. In this variation, there has been a gradual approach towards uniformity of results which, it must be admitted, has been due to reason rather than logic. At times, however, there have been marked recessions, on the part of individual States, in their construction of water rights.

ANTIQUITY OF THE DOCTRINE OF APPROPRIATION.

The legal theory of the relation of property rights to priority of appropriation of natural resources is of much longer standing than is its recognition in the water laws of the United States. Indeed, the priority right may be considered as a refined derivative of the natural law of the appropriation of free goods—*possession grants ownership*. This theory is recognized by international law in defining the rights of discovery, exploration, and occupation, and it has long been the basis of governmental policy in distributing the public lands of the United States in the promotion of social welfare and industrial development. Where water exists as an unappropriated good, but in quantities not sufficient for all actual or potential uses, the application of the principle of priority rights is in harmony with established custom and law generally pertaining to the acquisition of title in unappropriated goods of like economic significance.

Irrigation is probably as old as cultivation, and the law of waters is of like antiquity. The plains of Egypt and Assyria evidence ancient irrigation works which present skill and capital would hesitate to undertake, and southern Europe and western America, doubtless, long ago maintained definite principles of irrigation law.²⁸ Records do not enable us to determine in all cases the systems of legal rights by which the use of water was con-

²⁷New Brantner etc. Co. v. Kramer (1914) 57 Colo. 218, 141 Pac. 498; United States v. Bennett (C. C. A. 9th, 1913) 207 Fed. 524; Thayer v. California Development Co. (1912) 164 Cal. 117, 128 Pac. 21.

²⁸See note 2.

trolled among ancient peoples. It is known, however, that in some countries, notably Egypt and India, the state constructed the distributing system, and the distribution was a matter of provincial regulation.²⁹ In Mexico and Peru, the state delivered the water to the local authorities of the Pueblos who were entrusted with its final distribution.³⁰ *It is likely that, among the ancients, the general rule was to consider water and its use for irrigation as subject to government ownership and control.*

Private property in water for purposes of irrigation is known to have persisted since the beginning of written history. Of especial interest is the fact that abundant recognition of the use of water for irrigation, and clearly defined *individual rights* in the same are to be found in the Roman law. In the Justinian *Corpus Juris Civilis* we find the following:

"There is nothing to prevent anyone taking water from a public river, unless the sovereign or the senate forbids it, provided that the water so taken is not in public use. But if the river is either navigable or makes something else navigable, the water is not permitted to be used.³¹ Many may take away water from a river, but in such manner only that their neighbors are not injured, or, if the stream is not large, those on the other side."³²

A study of the origins of Anglo-Saxon law reveals the development of a system of water law having its beginnings in the civil law of Rome and, in its maturity, known as the *English common law doctrine of riparian rights*. It is possible to trace a parallel growth of water law which also takes its source from the Roman law, but recognizes a different type of natural conditions, and, con-

²⁹Gast, in Legal Advisor, Vol. II, p. 108; Mead, Egyptian Irrigation; Bulletin of U. S. Office of Experiment Station No. 130, 61.

³⁰"The laws of Mexico relating to Pueblos conferred on the town authorities the power of distributing, to the common lands and to its inhabitants, the waters of an unnavigable river on which the Pueblo was situated. It would seem that a species of rights to the use of all its waters necessary to supply the domestic wants of the *pobladores*, the irrigable lands and the mills and manufactories within the general limits, were vested in the Pueblo authorities, subject to the trust of distributing them for the benefit of the settlers". See historical sketch of water rights in California before the American occupation, in *Lux v. Haggin* (1886) 69 Cal. 255, 4 Pac. 919, 10 Pac. 674.

The rights conferred under the Mexican grants and the custom of their use prior to the dominion of the United States are confirmed by present law and administered in trust under control of the legislature. *Vernon Irr. Co. v. Los Angeles* (1895) 106 Cal. 237, 39 Pac. 762; *Los Angeles v. Los Angeles F. & M. Co.* (1908) 152 Cal. 645, 93 Pac. 869, 1135.

³¹Pomponius, in Justinian, Dig., Bk. 43 Tit. 12 Par. 2.

³²*Id.* Dig., Bk. 43 Tit. 20 Par. 3.

sequently, disregards the common law concept of private property in riparian waters, being, in its logical development, identical with the *American doctrine of appropriation*.

The Roman law not only established the principles of private property in water for the purposes of irrigation, but elaborate provisions were made for economic distribution and use. Streams were classified as *perennial* and *torrential*, each being carefully defined and, accordingly, water rights thereon were made different in nature.³³ Rights to the use of water distinguished also between summer (*aestival*) and daily (*quotidian*) water, and even authorized the modern practice of rotating or "swapping" water,³⁴ and, what is in advance of present law and economy, water rights were designated as limiting use to specified days or hours.³⁵ Prætorian interdicts established a right to acquire property in water by prescription, or undisputed use for a specified time, it being required only that the diversion and use should have been accomplished without force, stealth, or variation, and for one year previous at least.³⁶ Different interdicts were made to apply to daily and summer waters, respectively, the one designating the prerequisite use of the year before, and the other as of the summer before.³⁷ The nature of the uses of water and the quality and location of the lands to which it might be applied were carefully described in the Roman law and in judicial opinions thereon. Some of these

³³Rivers were distinguished from brooks by size, and rivers were classified as *perennial* or *torrential*, according as they flowed continually or only in flood time. Ulpian, in Justinian, Dig., Bk. 43 Tit. 12 Par. 1.

³⁴*Id.* Dig., Bk. 43 Tit. 20 Par. 5.

³⁵*Id.* Dig., Bk. 43 Tit. 20 Pars. 1, 22. Such an intermittent right was approached in the decision in *Gardner v. Wright* (1907) 49 Ore. 609, 91 Pac. 286. The Court held that one may establish a right in the use of a stream for a part of the year, while another may at the same time, acquire a property in the water for the remainder of the year.

A Colorado decision in 1911 by Judge H. P. Gamble, in the District Court designated an "irrigation season" for the direct use of water in the summer; and, in the winter, a "storage season" for waters of the Platte River. This very rational and progressive ruling of Judge Gamble has recently been reversed by the Supreme Court of Colorado. *Comstock v. Larimer & Weld* (1914) 58 Colo. 186, 145 Pac. 700.

³⁶"Scavola said that judges are accustomed to protect canals of long-established use although the right was not susceptible of proof". Justinian, Dig. Bk. 39 Tit. 3 Par. 26.

³⁷"I forbid violence against him who, adversely to you, is using water as it has been used during the past year without force, stealth, or variation. This applies to daily water". Interdict of the Praetor, *id.* Bk. 43 Tit. 20, Par. 1.

"I forbid violence against him who, adversely to you, has been using water as he has used it during the past summer without force, stealth, or variation. This interdict applies to summer water". *Id.* Bk. 43 Tit. 20 Pars. 1, 29.

provisions and opinions are strongly suggestive of a mature consideration of present-day problems which are as yet unsolved. Important among such matters are methods of measuring uses and rights, and means of determining what lands are justified in receiving the benefits of uses to be granted.³⁸ It is also evident that the Roman law was abreast of our own in acknowledging the measure of damages in payment due those whose property was injured from the owners of ditches responsible for the injury.³⁹ The highest refinement attempted by present irrigation laws was approached by the Roman judges, in the year 294 A. D., when it was declared that "It is not acreage, but the use to which the water is put, that measures the right to the water".⁴⁰ This phrase incorporates an advanced and only recently attained position in the science of irrigation law. Under the principle contained therein, the attempt is to make domestic use, municipal use, use for stock and gardens, use for field agriculture, use for mining, and use for mechanical purposes to assume precedence in the order named. It is not area, but the nature of the use which should measure the right; and if water is scarce, the distribution of such as there is should follow the order of the uses, the priority of appropriation being a valid contention for preference only within groups claiming for a like use.

Present problems of law and practice arise in the attempt to fix upon some adequate standard by which to measure rights in the use of water for irrigation. Several standards have been tried, and each has given cause for dissatisfaction. They have been as follows:⁴¹ (1) *Actual flowage of water originally claimed,*

³⁸"It should be understood that the Praetor has ordered that water be conveyed in the same manner that it has been used during the past year. Hence, it may be seen that the water is not to be different water or for a wider use. Therefore, if it is some other water which he wishes to convey, or if it is the same water, but he wishes to convey it to some other region, force may be used against him with impunity". *Id.* Bk. 43, Tit. 20, Pars. 1, 15.

"Labeo says that all parts of an estate into which water is conveyed are counted as one whole. If, therefore, perchance, a plaintiff buys an adjoining field and from the field into which he has conveyed the water for the first year he wishes afterward to lead the water into the said purchased field, he can do so under this edict . . . because, being once in his own inclosure, he can go where he pleases unless damage comes from him to whom the water is conveyed away". *Id.* Bk. 43, Tit. 20, Pars. 1, 16.

³⁹Ware, Roman Water Laws p. 93.

⁴⁰*Id.* p. 94.

⁴¹For recent judicial tests of beneficial use and amount of water necessary, see *Weldon Valley Co. v. Farmers' Pawnee Co.* (1911) 51 Colo. 54, 119 Pac. 1056.

disregarding the manner of the use; (2) the capacity of the original canal of diversion, disregarding the manner of the use; (3) the amount of water habitually used since the time of diversion; (4) the actual area to which the use is applied, having due regard for the duty of water. A modification of the fourth criterion has been advanced and partially maintained by Wyoming, Nebraska, and other States by making the right of use of a particular appropriation an appurtenance to prescribed lands.⁴² The same provision is now being very generally advanced by the administrative restriction of use by irrigation districts and by water users' associations operating under the regulations of the United States Reclamation Service. This most recently introduced and still immature principle of the American water right is clearly suggested in the text of a decree of the emperors Antoninus and Verus when they directed that "water from public streams ought to be divided for the irrigation of fields in proportion to the holdings,"⁴³ and, in a further quotation from the *Pandects*—"From my right, so Labeo says, I may accommodate any of my neighbors with water. On the other hand, Proculus holds that the water may not be used for any other part of the estate than that for which the right was acquired. The opinion of Proculus is the truer one".⁴⁴

The right of way for irrigating canals over the lands of others than the builders was recognized by the Roman law,⁴⁵ and the fact of beneficial use, as essential to title, was made the theme of a decree under date of 397 A. D.⁴⁶

A survey of the Roman law not only reveals the probable origin of the English Common-law riparian rights, but also proves ancient legal recognition of a non-riparian water use. It reveals

⁴²Rights established by order of the Board of Control have been defined as attaching to the land to be irrigated, and the land and the ditch of diversion have been carefully described, it being the theory that the right of use is restricted to the place and purpose for which it was acquired. However, the Supreme Court of Wyoming has decided that water rights are not inseparably attached to particular tracts of land, and that they may be sold. *Johnston v. Little Horse Creek Irr. Co.* (1904) 13 Wyo. 208, 79 Pac. 22.

⁴³Justinian, Digest, Bk. 8, Tit. 3, Par. 17.

⁴⁴Pomponius, *Id. Dig.*, Bk. 8, Tit. 3, Par. 25.

⁴⁵Ware, p. 101.

⁴⁶"We ordain that ancient water rights, established by long ownership, shall continue to the individual citizen, undisturbed by innovation; provided, however, that the quantity which each takes by ancient rights is that which by custom he has been taking continuously until the present day". The Emperors Arcadius and Honorius to Asterius Count of the East, Justinian Code, Bk. 11, Tit. 42, Par. 4.

the existence of water rights and methods of systematic distribution of water for purposes of irrigation quite consistent with and, in many respects, identical with the modern theory of *property in water by virtue of appropriation and beneficial use*. In fact, the Roman law was abreast of some of the most advanced interpretations and elaborations of that modern doctrine. The actual *priority right* does not appear in the available fragments of the Roman law; but it is to be remembered that Roman waters were appropriated to use long before the Imperial Law, as we know it, was formulated. The experience in Rome of settling wild lands and appropriating unclaimed natural resources, which alone could give rise to the elementary conception of the doctrine of priorities, was not contemporary with the formation of the Justinian Code or the laws of the Digest. However, "prescriptive use" for purposes of irrigation and the right thus acquired, which was well known to the Roman law, is of the nature of the "priority right". The remaining factors of the modern theory—(1) the legality of non-riparian privileges, (2) the requirement of beneficial use, (3) the recognition of classified and graded uses, (4) the essential quantitative measure of rights, and (5) the location or incidence of the use—are alike common to the law of Rome and to the law of arid America.

R. H. HESS.

UNIVERSITY OF WISCONSIN.